

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Date: June 3, 2008

OLE PETTER WULLUM

Serial No. : 10/500,906

Examiner: Rodney Barnett White

Filed : July 2, 2004

Group Art Unit: 3636

For : MOBILE JOINT WITH SEVERAL STABLE POSITIONS,  
SUITABLE FOR USE IN FURNITURE

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P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

**BRIEF OF APPELLANT**

This Brief is presented in opposition to the Examiner's final rejection of claims 11-18 and 20-23 in the final Office action dated October 12, 2007.

**I. REAL PARTY IN INTEREST**

The real party in interest is Variér Furniture AS, a Norwegian corporation having a principal place of business at Håhjem, Skodje, Norway.

**II. RELATED APPEALS AND INTERFERENCES**

There are no known related appeals or interferences.

### III. STATUS OF CLAIMS

The present application was filed on January 6, 2003 as International Application No. PCT/NO03/00001, and published on July 10, 2003 as International Publication no. WO 03/055357, with original claims 1-10. The corresponding U.S. National Application under 35 U.S.C. § 371 was filed at the United States Patent Office on July 2, 2004. A Preliminary Amendment was filed with the application in which original claims 1-20 were canceled, and new claims 11-22 were added.

In response to an initial Office action dated September 26, 2006, a Response to Office Action was filed on February 26, 2007 amending claims 11, 15, 16, and 23.

In response to a final Office action dated May 2, 2007, an Amendment and Response to Final Office Action was filed on August 2, 2007 amending claims 11-23. The requested amendments were not entered.

In response to the Advisory Action dated August 15, 2007, a Request for Continued Examination under 37 C.F.R. § 1.114 was filed on October 2, 2007, with an Amendment and Response amending claims 11-23.

In response to another final Office action dated October 12, 2007, an Amendment and Response to Final Office Action was filed on February 8, 2008 cancelling claim 17 and amending claims 11-14 and 18-22. The requested amendments were not entered, as indicated in the Advisory Action dated March 4, 2008.

The pending claims are claims 11-23 as amended in the Amendment and Response filed October 12, 2007.

**IV. STATUS OF AMENDMENTS**

The requested amendments in the Amendment and Response to Final Action submitted February 8, 2008 were not entered by the Examiner. No further amendments have been made subsequent to the final Office action dated October 12, 2007.

## V. SUMMARY OF CLAIMED SUBJECT MATTER

The claims of the present application are directed to mobile joints, and chairs incorporated mobile joints, as generally described in the specification and more particularly described at page 2, line 31 to page 3, line 12. The recited mobile joint includes at least two joint elements that are reciprocally limited, each joint element being capable of pivoting between two extreme positions in order to allow the seat coupled to the mobile joint to tilt in response to a users weight displacement. In particular, the mobile joint includes two outer joint elements that are each pivotally connected to a middle joint element, where the pivoted axles joining the outer joint elements to the middle joint element are displaced in relation to each other in the horizontal direction. The joint is constructed so that the joint can assume a stable pivotal position between the two extreme positions.

### A. Independent Claim 11

Independent claim 11 is directed to a mobile joint for a seating construction, in particular for mounting between a seat device (100) of a seating construction and a support (200) for the seat device (100) (page 5, lines 2-8; Fig. 1).

The mobile joint includes at least two joint elements (10, 30) where each joint element is pivotable to a limited degree with respect to any joint element to which it is itself connected. This construction permits the mobile joint (1) to pivot between two extreme positions, and allows a tilting movement of the seat device (100) that is effected by a user's weight displacement (see page 5, lines 9-13; Fig. 2).

Discussed in greater detail, the recited mobile joint contains a first joint element (10) that is mounted at a first end to the support (100), and mounted pivotally at a

second end only to a first end of a middle joint element (20), the pivotal connection including a first rotational axis (40). The recited mobile joint additionally includes a second joint element (30) that is mounted at a first end to the seat device (200) and is mounted pivotally at a second end only to a second end of a middle joint element (20), where the pivotal connection includes a second rotational axis (50) (page 5, lines 19-31; and Figs. 2-5). The two rotational axes (40, 50) are horizontally displaced in relation to each other, so that the joint (1) can assume a stable tilting position between the two permitted extreme positions of the mobile joint, when the user's center of gravity is above a point between the first and second rotational axes (see page 2, line 31 to page 3, line 12).

**B. Claim 12**

Claim 12 depends from independent claim 11, and recites a mobile joint having a middle joint element (20) that consists of a number of joint sub-elements, so that the mobile joint (1) is configured to assume a number of additional stable tilting positions between between the two permitted extreme positions of the mobile joint. An alternative embodiment of mobile joint that may have additional joint elements and axes in order to have several intermediate stable positions is described in the specification at page 12, lines 1-7, and in claim 2 as originally filed at page 14, lines 17-21.

**C. Claim 13**

Claim 13 depends from independent claim 11, and recites a mobile joint constructed so that the horizontal distance between the rotational axes (40, 50) is about 5-15 cm. The horizontal distance between axes 40 and 50 is disclosed as typically about 12 cm (at page 11, lines 12-15), or about 6-10 cm (at page 11, lines 15-17). A

horizontal distance between axes 40 and 50 is described as "in the range of about 5-15 cm, preferably in the range of about 6-10 cm" in claim 3 as originally filed, at page 14, lines 22-25.

**D. Claim 14**

Claim 14 depends from claim 13, and recites a mobile joint constructed so that the horizontal distance between the rotational axes (40, 50) is about 6-10 cm. The horizontal distance between axes 40 and 50 is disclosed as typically about 12 cm (at page 11, lines 12-15), or about 6-10 cm (at page 11, lines 15-17). A horizontal distance between axes 40 and 50 is described as "in the range of about 5-15 cm, preferably in the range of about 6-10 cm" in claim 3 as originally filed, at page 14, lines 22-25.

**E. Claim 15**

Claim 15 depends from claim 11, and recites a mobile joint constructed so that the tilted positions of each joint element are restricted by pairs of reciprocally cooperating fitting surfaces (12, 21; 14, 23; 33, 22; 35, 26) (see Figs. 6, 7, and 8). Each pair of reciprocally cooperating fitting surfaces is also configured to abut when a selected joint element is pivoted to a desired point, thereby hindering further movement of that joint element. In addition to Figs. 6-8, the cooperating fitting surfaces are also disclosed at page 7, lines 6-30.

**F. Claim 16**

Claim 16 depends from claim 15, and recites that one or both members of the at least one pair of cooperating fitting surfaces (12, 21; 14, 23; 33, 22; 35, 26) is equipped with a stopper (13, 24, 34, 36), where the stopper is configured to dampen the impact between the pair of cooperating fitting surfaces when the corresponding joint element is



pivoted to the desired point. Again, these elements of the claimed mobile joint are shown in Figs. 6-8 and page 7, lines 6-30.

G. Claim 17

Claim 17 depends from claim 11, and recites a mobile joint having at least two of the joint elements (10, 20, 30) spring-loaded in relation to each other. The utility of spring-loaded joint elements is discussed in the specification at page 6, line 20 to page 7, line 5.

H. Claim 18

Claim 18 depends from claim 17, and recites a mobile joint having at least one spring-loaded joint where the spring-load is created by a torsion spring, a spring coil, a plate spring, or an elastic material. A mobile joint incorporated a torsion spring is disclosed at page 8, lines 4-19; and alternative springs such as coil springs, plate springs, and other elastic materials are disclosed at page 13, lines 1-3.

I. Claim 19

Claim 19 depends from claim 18, and recites a mobile joint having at least one spring-loaded joint where the spring-load is created by a torsion spring. A mobile joint incorporated a torsion spring is disclosed at page 8, lines 4-19

J. Claim 20

Claim 20 depends from claim 17, and recites a mobile joint having a spring-loaded joint element where the spring load is adjustable. The specification describes a spring-loaded axle 40 that may be adjusted by a torsion arm, for example, at page 8, lines 17-19. Additionally, an adjustable spring load is recited in claim 7 as originally filed, at page 15, lines 4-8.

K. Claim 21

Claim 21 depends from claim 17, and recites a mobile joint having a first and second joint element (10, 20) that have different spring loads with respect to the middle joint element. A mobile joint having two spring-loaded axles that are individually adjustable is described at page 8, lines 4-19 of the specification.

L. Claim 22

Claim 22 depends from claim 11, and recites a mobile joint having at least two joint elements (10, 20, 30) that are lockable with respect to each other. A mobile joint having at least two joint elements that may be locked in relation to each other is described by claim 8 as originally filed, at page 15, lines 9-12.

M. Claim 23

Claim 23 depends from each of claims 11-21, and recites a chair that includes a mobile joint as recited by one of claims 11-21, where the mobile joint is mounted between a seat device (100) and a support (200) for the chair (100). Chairs incorporating the subject mobile joints are disclosed at page 2, line 28 to page 3, line 12; and depicted in Figs. 1 and 9.

**VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 11-18 and 20-23 were rejected under 35 U.S.C. § 102(b) as being anticipated by Piretti (U.S. Patent no. 4,909,472).

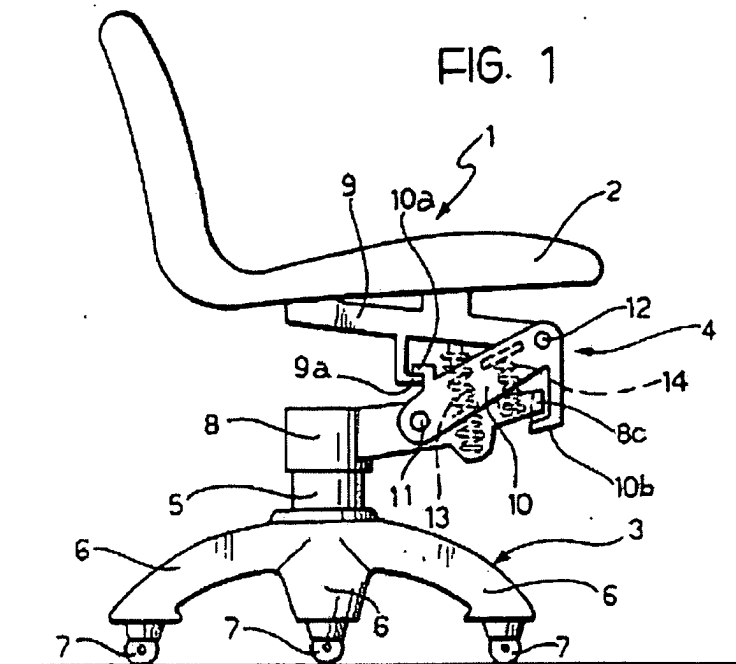
## VII. ARGUMENT

### A. The Legal Standard for Anticipation under 35 U.S.C. § 102

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

### B. The Piretti Reference (U.S. Patent no. 4,909,472)

The Piretti reference is directed to a pivoting support for chairs, seats, and the like. The chair support of Piretti includes a main support member which is connected to the base structure of the chair, and a seat support member for pivoting about a horizontal axis (see col. 1, lines 7-13). As shown below, and with reference to the Figures and claims of Piretti, the disclosed pivoting support or mobile joint (4) includes a main support member or joint element (8), a seat support member or joint element (9) and an auxiliary support member or middle joint element (10) interposed between the main support member and the seat support member. Although the Piretti support includes resilient means 13 and 14, resilient means 13 is interposed between members 8 and 9, coupling them together, while resilient means 14 is interposed between members 8 and 10.



That is, joint element 8 is coupled pivotally to middle joint element 10, and middle joint element 10 is coupled pivotally to joint element 9. However in addition, middle joint element 10 is also coupled to joint element 9 via resilient means 14, and joint element 9 is in turn coupled to joint element 8 via resilient means 13.

In addition, joint element 9 and joint element 10 are reversibly coupled via wedges 49, as shown in Figs. 2 and 6-9, and described at col. 5 lines 31-52 of Piretti. Wedges 49 are "adapted to be interposed" between seat support member 9 and the upper surface of auxiliary support member 10. The engagement of wedges 49 prevent backward pivoting of the seat.

C. The Claimed Mobile Joint is Distinct From that of Piretti

The mobile joint of claim 11 contains a first joint element (10) mountable at a first

end to the support (100) and at a second end only mounted pivotally to a first end of a middle joint element (20) at a first rotational axis (40), and further containing a second joint element (30) mountable at a first end to the seat device (200) and at the second end only mounted pivotally to a second end of the middle joint element (20) in a second rotational axis (50).

As shown above, the seat construction of Piretti includes a spring-loaded coupling between member 9 and member 8, via spring 13. The mobile joint of claim 11 however recites that each joint element is pivotable to a limited degree in relation to each joint element that it is immediately connected to, and that the first joint element is mounted at a first end to the support and at a second end only mounted pivotally to a first end of the middle joint element. Similarly, the second joint element is mounted at a first end to the seat device and at the second end only mounted pivotally to a second end of the middle joint element. The joint elements of the Piretti seat construction include couplings between the first joint element and the second joint element, as well as additional couplings beyond the pivotal connections between the first joint element and the middle joint element, and the middle joint element and the second joint element. The seat construction of Piretti therefore fails to satisfy the requirements as set out in claim 11.

In addition, claim 11 states that the recited joint is capable of assuming a stable tilting position between the two extreme positions when the user's center of gravity is above a point between the first and second rotational axes. The Piretti reference discloses the use of resilient means 13 and 14, in combination with various stop elements, to define the limits of travel of the Piretti. However, Piretti fails to disclose any

relationship between the position of the user's center of gravity with respect to the rotational axes between joint elements and the existence of stable tilting positions. Considering the effect of resilient means 13 and 14, it is not clear that any stable tilting positions exist where the user's center of gravity is forward of horizontal axis 11, much less that a stable tilting position exists that is between the two extremes of tilt achievable by the seat construction.

In particular, when no one is using the chair of Piretti, the resilient means (13, 14) will bias the chair to a "passive" position corresponding to the position shown in Fig. 1. When a user of the chair applies pressure on the mobile joint, it will pivot according to the movement of the user. However, due to the continuous forces applied on members (8, 9, 10) by resilient means (13, 14), the joint of Piretti can only assume a stable position under one of three conditions: First, the chair can assume a stable and "passive position" when it is not affected by the weight of the user. Second, when in a maximum forward position (based on the weight of the user, as shown in Fig. 5), such that the upper surface of the stop element (8c) of the main support member (8) abuts a rubber pad (46) carried under the front part of the seat support member. Third, when in a maximum backward position such that a rubber pad (44) carried at the rear by the lower surface of the seat support member (9) abuts a flat abutment plane (45) provided above the bushes (20) of the main support member (8) (see col. 4, line 64 to col. 5, line 30).

In contrast, claim 11 specifically recites that the claimed mobile joint "assumes a stable tilting position between the two extreme positions when the user's center of gravity is above a point between the first and second rotational axes." As described in the specification (for example at page 6, lines 11-14), this intermediate position is

defined between the axes 40 and 50. The present joint is able to assume three discrete positions: The initial position shown in Figs. 3, 6 and 11; the intermediate position shown in Figs. 4, 7 and 12; and the extreme position shown in Figs. 5, 8 and 13. This flexibility is achieved by the stepwise activation of the rotation of the joints at the first and second rotational axes 40, 50. The joint of Piretti is unable to assume such stable intermediate positions under the influence of the weight of a user. Appellant respectfully suggests that the Piretti chair is not disclosed as being capable of assuming a stable tilting position when the user's center of gravity is between the first and second rotational axes of the Piretti chair.

Furthermore, the advantageous design of the claimed mobile joint permits the joint to assume a number of additional stable tilting positions between the two extreme positions, something the joint of Piretti is incapable of due to the forces being continually applied by the resilient means (13,14) of the Piretti joint.

In order to anticipate a claim, the cited reference must disclose each and every element of the claim. As the Piretti reference fails to disclose the features recited in claim 11, Appellant respectfully suggests that Piretti fails to anticipate the subject matter of claim 11 under 35 U.S.C. § 102(b).

With respect to claim 12, Appellant suggests that Piretti fails to disclose a middle joint element consisting of a number of joint sub-elements. Additionally, as Piretti fails to disclose one stable tilting position between the two extreme tilting positions, Appellant suggests Piretti necessarily fails to disclose a number of additional stable tilting positions between the two extreme positions. For at least these reasons, the mobile joint of claim 12 is additionally not anticipated by Piretti.



With respect to claims 13 and 14, Piretti fails to disclose a horizontal distance between rotational axes of about 5-15 cm, or a horizontal distance between rotational axes of about 5-15 cm. For at least these reasons, the mobile joint of claims 13 and 14 are additionally not anticipated by Piretti.

With respect to claims 15-18 and 20-22, Appellant suggests the recited mobile joints are not anticipated by Piretti for at least the reasons provided for the mobile joint of claim 11.

With respect to claim 23, as the mobile joint of claim 11 is not anticipated by Piretti, Appellant suggests that a chair incorporating a mobile joint according to claim 11 is not anticipated by Piretti. For at least this reasons, the chair of claim 23 is additionally not anticipated by Piretti.

**D. Additional Issues**

The Examiner has questioned whether the structure disclosed by the Appellant will allow a stable intermediate position to be achieved without a locking feature or mechanism. Appellant respectfully suggests that they have provided abundant structural information relating to exemplary mobile joints, including angles and dimensions, and have asserted that the recited mobile joint is responsive to the shifting of the user's center of gravity, and can assume any of multiple stable tilting positions depending on the posture and position of the user. See for example the detailed discussion at page 5, line 32 to page 6, line 19; and at Figs. 3, 4, and 5.

Although the mobile joint is optionally spring-loaded (see the specification at page 6, lines 20-33), for example using torsion springs (see the specification at page 7, lines 1-5), such mechanisms are not required, and are not therefore recited in claim 11.

However, this is not germane to the rejection of the claims under 35 U.S.C. § 102. Appellant's claims recite the invention in functional terms, that is the invention is defined, in part, by what it does, rather than by what it is. It has been determined that there is nothing inherently wrong with defining selected aspects of the invention in functional terms, and that functional limitations must be evaluated and considered in the context of the prior art.

The Examiner has asserted that the Appellant has not addressed some concerns regarding the language of the claim. Specifically, the Examiner is troubled by the reference in claim 11 to the rotational axes (40, 50) being "horizontally displaced in relation to each other" when the distance between those two axes remains constant. The Appellant suggests that the absolute distance between the two rotational axes, which the Examiner appears to be referring to, is independent of their relative displacement in the horizontal plane. Again, Appellant that this is not germane to the rejection of the claims under 35 U.S.C. § 102, and that the language of Appellant's claims should be evaluated from the point of view of one of ordinary skill in the relevant art.

The Examiner also asserts that the language of claim 11 that "each joint element is pivotable to a limited degree in relation to each joint element that it is connected to" does not appear to be true. Appellants strenuously disagree. The claim language states clearly that each joint element is pivotable in relation to each joint element it is connected to. Joint elements 10 and 20 are coupled with a pivotal connection, and therefore each joint element is pivotable with respect to the joint element it is coupled to. Similarly, Joint elements 20 and 30 are coupled with a pivotal connection, and are

therefore pivotable with respect to each other. The language of claim 11 is clear and precise in defining the claimed invention. Appellant suggests that this issue is not germane to the rejection of the claims under 35 U.S.C. § 102, and that the language of Appellant's claims should be evaluated from the point of view of one of ordinary skill in the relevant art.

**E. Conclusion**

Appellant suggests that the Piretti reference cited by the Examiner has failed to disclose each and every element recited by the rejected claims, and that the claimed invention is therefore not anticipated under 35 U.S.C. § 102(b).

Accordingly, the rejection of claims 11-18 and 20-23 under 35 U.S.C. § 102(b) should be reversed.

## VIII. CLAIMS APPENDIX

1-10. (Canceled)

11. A mobile joint (1) for a seating construction for mounting between a seat device (100) of a seating construction and a support (200) for said seat device (100), comprising at least two joint elements (10, 30) wherein each joint element is pivotable to a limited degree in relation to each joint element that it is connected to, permitting the mobile joint (1) to pivot between two extreme positions in order to allow a tilting movement of the seat device (100), effected by the user's weight displacement, wherein the mobile joint contains a first joint element (10) mountable at a first end to the support (100) and at a second end only mounted pivotally to a first end of a middle joint element (20) at a first rotational axis (40), and further containing a second joint element (30) mountable at a first end to the seat device (200) and at the second end only mounted pivotally to a second end of the middle joint element (20) in a second rotational axis (50), wherein the said rotational axes (40, 50) are horizontally displaced in relation to each other, and whereby the joint (1) assumes a stable tilting position between the two extreme positions when the user's center of gravity is above a point between the first and second rotational axes.

12. The mobile joint (1) of claim 11, wherein the middle joint element (20) consists of a number of joint sub-elements, wherein the mobile joint (1) is configured to assume a number of additional stable tilting positions between the two extreme positions.

13. The mobile joint (1) of claim 11, wherein the horizontal distance between

the rotational axes (40, 50) is about 5-15 cm.

14. The mobile joint (1) of claim 13, wherein the horizontal distance between the rotational axes (40, 50) is about 6-10 cm.

15. The mobile joint (1) of claim 11, wherein the tilted positions of each joint element are restricted by pairs of reciprocally cooperating fitting surfaces (12, 21; 14, 23; 33, 22; 35, 26), where each pair of reciprocally cooperating fitting surfaces is configured to abut when a joint element is pivoted to a desired point, thereby hindering further movement of the joint element.

16. The mobile joint (1) of claim 15, wherein one or both members of at least one pair of cooperating fitting surfaces (12, 21; 14, 23; 33, 22; 35, 26) is equipped with a stopper (13, 24, 34, 36), wherein the stopper is configured to dampen the impact between the pair of cooperating fitting surfaces when the corresponding joint element is pivoted to the desired point.

17. The mobile joint (1) of claim 11, wherein at least two of the joint elements (10, 20, 30) are spring-loaded in relation to each other.

18. The mobile joint (1) of claim 17, wherein the spring-load is created by a torsion spring, a spring coil, a plate spring, or an elastic material.

19. The mobile joint (1) of claim 18, wherein the spring-load is created by a torsion spring.

20. The mobile joint (1) of claim 17, wherein the spring load is adjustable.

21. The mobile joint (1) of claim 17, wherein the first and second joint elements (10, 30) have different spring-loads in relation to the middle joint element.

22. The mobile joint (1) of claim 11, wherein at least two joint elements (10,

20, 30) are lockable in relation to each other.

23. A chair comprising a mobile joint (1) according to one of claims 11-21, the joint being mounted between a seat device (100) and a support (200) for said seat device (100).

**IX. EVIDENCE APPENDIX**

None presented.

**X. RELATED PROCEEDINGS APPENDIX**

None presented.



CERTIFICATE OF E-FILING

I hereby certify that this correspondence is being transmitted electronically via the United States Patent and Trademark Office's EFS-Web System on June 3, 2008.

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